

## CLAIMS

### I claim:

- 5           1.     A system for generation of electrical energy comprising:  
an electric generator having a rotatable generator shaft with a first  
pulley attached;  
a rotatable shaft having a shaft pulley attached;  
a shaft belt disposed on said first pulley and said shaft pulley;  
10           a second pulley attached to said generator shaft;  
a motor having a rotatable motor shaft, said motor shaft having a  
motor pulley attached;  
a motor belt disposed on said second pulley and said motor pulley;  
and  
15           a power source in electrical communication with said motor.
2.     The system as in claim 1 wherein said first pulley having  
approximately a 20 to 1 ratio relative to said shaft pulley.
- 20           3.     The system as in claim 1 wherein said second pulley having  
approximately 1 to 20 ratio with said motor pulley.
4.     The system as in claim 1 wherein said power source comprising a  
battery in electrical communication with said motor.
- 25           5.     The system as in claim 4 further comprising:  
a third pulley attached to said generator shaft;  
an alternator having a rotatable alternator shaft, said alternator  
shaft having an alternator pulley attached;  
30           an alternator belt disposed on said third pulley and said alternator  
pulley; and

said alternator in electrical communication with said battery.

6. The system as in claim 5 wherein said motor is a 110 VAC motor, said battery is a 12 VDC battery and a converter is in electrical communication  
5 intermediate said battery and said motor to convert 12 VDC power to 110 VAC power.

7. The system as in claim 1 wherein a speed sensor sensing the speed of said generator shaft is in communication with a relay to apply and  
10 interrupt power from said power source to said motor.

8. The system as in claim 7 wherein said sensor programmed to apply power to said motor when the speed of said generator shaft is approximately less than 1,000 rpm and to interrupt power to said motor when the speed of said  
15 generator shaft is approximately greater than 4,000 rpm.

9. The system as in claim 5 wherein said motor belt and said alternator belt each having a tension pulley applied thereto.

20 10. The system as in claim 1 wherein said generator shaft and said rotatable shaft each rotating in a bearing having a fan mounted adjacent thereto.

11. A system for generation of electrical energy comprising:  
an electrical generator having a rotatable generator shaft with a first,  
25 pulley attached;  
a rotatable shaft having a shaft pulley attached;  
said first pulley and said shaft pulley having approximately a 20 to 1  
ration therebetween and a shaft belt disposed on said first pulley and said shaft  
pulley;  
30 a second pulley attached to said generator shaft;  
a motor having a rotatable motor shaft with a motor pulley attached;

said second pulley and said motor pulley having approximately a 1 to 20 ratio therebetween and a motor belt disposed on said second pulley and said motor pulley;

a third pulley attached to said generator shaft;

an alternator having a rotatable alternator shaft with an alternator pulley attached;

said third pulley and said alternator pulley having approximately a 1 to 4 ratio therebetween and an alternator belt disposed on said third pulley and said alternator pulley; and

said alternator in electrical communication with a battery and said battery in electrical communication with said motor.

12. The system as in claim 11 wherein said motor is a 110 VAC motor, said battery is a 12 VDC battery and a converter is in electrical communication intermediate said battery and said motor to convert 12 VDC power to 110 VAC power.

13. The system as in claim 11 wherein a speed sensor sensing the speed of said generator shaft is programmed to control a relay to apply power to said motor when the speed of said generator shaft is approximately less than 1,000 rpm and to interrupt power to said motor when the speed of said generator shaft is approximately greater than 4,000 rpm.

14. The system as in claim 11 wherein said shaft belt, said motor belt and said alternator belt each having a tension pulley applied thereto.

15. The system as in claim 1 wherein a starter motor having a starter shaft with a starter pulley attached wherein said starter pulley engaged with said motor belt and said starter motor in electrical communication with said power source.

16. The system as in claim 5 wherein a starter motor having a starter shaft with a starter pulley attached wherein said starter pulley engaged with said alternator belt and said starter motor in electrical communication with said power source.

17. The system as in claim 5 wherein said electric generator is in electrical communication with said relay and a switch is in communication with said relay to control application of power to said motor.

18. The system as in claim 11 wherein said electric generator is in electrical communication with said relay and a switch is in communication with said relay to control application of power to said motor.

19. The system as in claim 5 wherein a switch is in communication with said converter to control application of power to an external user.

20. A method for operation of a rotational inertia aided electric generator system comprising the steps of:

moving a switch to a startup position to connect a starter motor and a motor to a power source;

moving said switch to a run position when sufficient startup speed for disconnect of said starter motor has been achieved;

moving said switch to a charge position when a generator shaft has achieved proper shaft speed to disconnect said motor and to charge a battery of said power source; and

moving said switch to a disengaged position wherein said power source outputs electric power for use by an external user and a generator is connected to a relay controlled by a speed sensor for application of power to said motor.